TREATING SCOLIOSIS

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How does a physiotherapist learn to treat a patient with a primary lumbar scoliosis?

By studying the patient and discovering exercises which improve the posture; by continual thought and the application of new exercises; by casting away any inefficient treatment and holding firmly onto that which is effective.

Basically then the first steps must be:

(a) To assess the condition, with the patient stripped, standing in front of a long mirror.

(b) To make a thorough muscle test and draw up a comprehensive muscle chart.

(c) To recognize tight structures.

(d) To discover the degree of "self-improvement" possible on first examination.

(e) To be prepared to try to strengthen the postural muscles as quickly as possible.

Stretch and Shunt

Treatment commences with two points of prime importance being demonstrated to the patient immediately; these are "stretch" and "shunt."

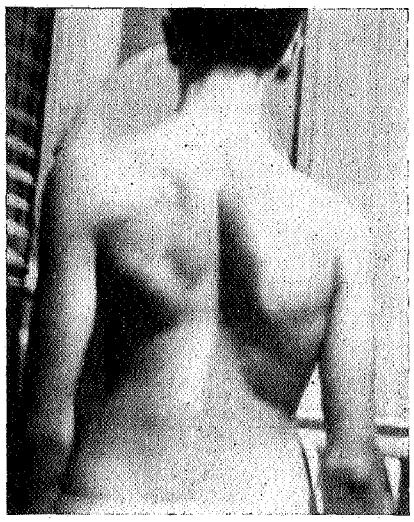
(1) *Stretch.* The patient is taught the art of using his own ability to keep tall or "stretch" from the very top of his head, thus lengthening the spine by natural means which, if the correction becomes a habit, is eventually of a permanent nature. Quite apart from physical benefits, the immediate and demonstrable improvement gives the patient a great deal of confidence in himself and hope for and faith in his eventual improvement.

Using a wall and mirror, the physiotherapist is able to show the patient a wonderful difference as he grows taller by two to three inches, this amount naturally varying with the severity of the case, cause of the defects, *etc.* In the photographs, the patient, although only using slight stretch and shunt and some posterior shoulder muscle contraction increased his height by two inches.

Much time and effort must be applied to making self help possible, and artificial means of keeping a spine straight should only be used in extreme cases where self help is quite impossible. Even then, splints, plasters, and stretch by hanging should be used only at regular intervals, while the patient's own ability to stretch is further encouraged and trained.

To illustrate this point, a patient with undiagnosed poliomyelitis as the cause for his scoliosis, with extremely weak lateral abdominal muscles, erector spinae groups and posterior shoulder muscles, was able, in spite of this, to "stretch tall." One point should be emphasized here. With carefully graded exercises, muscle strength may be improved after many years. One patient had only a flicker of contraction in the lateral abdominals for four years following the original discovery of his scoliosis. I decided to try again to strengthen these muscles. Following one year of very carefully graduated exercising, the muscles recovered to ninety per cent. of their full power capacity. Another patient had scattered muscle weakness in legs, thighs, gluteals, abdominals, and his back muscles were unilaterally affected. Even so, the patient could still "stretch tall" and after four years of careful and co-operative work, there is now full strength in every body muscle, in fact the patient is a champion skater. In this case, skating proved a valuable ally.

It is essential for the correction to be maintained when the patient is walking, sitting, standing, lying down; in fact, it is hoped and urged strongly that the stretch programme becomes an integral and normal pattern of everyday living.



Patient standing in a relaxed position.

After self-correction by "stretch" and "shunt."

(2) *Shunt.* This is of inestimable value. Whilst keeping in the corrected position, the patient learns — at first looking in a mirror — to move the rib cage sideways while keeping the pelvis steady and the shoulders level. This means the convexity becomes straight and the concavity is no longer a deep hollow. Accompanying rotation has no effect on the practise of this exercise. Naturally, the treatment is less complicated if no rotation is present.

There is a certain "knack" in the proper performance of "shunt." Once grasped perfectly however, this natural posture correction should be practised at all possible times and, as with "stretch," this becomes a part of normal life. The physiotherapist may instruct the patient to "shunt" while sitting in the bus, walking through the park, standing under the shower, anywhere and everywhere!

It is my considered opinion that the muscle of prime importance in this shunting action is the quadratus lumborum. Evidence to hand which adds further significance to this theory is that patients with very weak lateral abdominals and weakness of the erector spinae groups have been capable of performing "shunt" before any strengthening of these groups has been achieved. These patients had reasonable power, some good power, in the quadratus lumborum muscle. Certainly the theory must be tested and tried, but at this time should not be dismissed lightly.

Having taught the patient "shunt" and "stretch," treatment as adequate as possible of the cause of the scoliosis should then be commenced, and the patient told exactly what he can expect for the future.

Some Causes of Scoliosis

Let us first consider muscle imbalance, which can frequently be due to an undiagnosed poliomyelitis. Obviously the weak muscles must be built up as adequately and quickly as possible. Muscle imbalance caused by postural faults is all too common as a primary cause of scoliosis. A butcher may stand on one leg, using one side of his body as a fulcrum while chopping meat: a golfer may also over-develop one side of his body. Another

example of the continual over-use of a particular side of the body is the case of a young seamstress, who always sat at her machine taking full weight on her left buttock. When she stood all her weight went on to her left foot and a severe scoliosis developed, apparently due to a short leg. Unfortunately she was fitted with a built-up shoe and informed that nothing further could be done. However, after nine months of physiotherapy given as outlined here, the girl's back was normal again.

Blindness is an important cause of many postural defects, particularly scoliosis. Every child at the Royal Victorian Institute for the Blind demonstrated some degree of scoliosis.

"Bad" feet, injury or surgical procedures may all be causes of scoliosis.

During treatment, general posture points are corrected, such as accompanying lordosis, kyphosis, foot deformities and uneven weight distribution. Mobilization of breathing areas is important — frontal area development can often balance the posterior rotation of the ribs on the opposite side.

Whatever the age of the patient, a wary physiotherapist and a keen patient may indeed perform wonders together. The appropriate judgment of a method of treatment should include consideration of the evidence of its efficacy, its natural simplicity and the permanent response of the condition to the treatment. I have found the foregoing system to measure up to all these considerations.